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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,695	03/21/2006	David Lowell Mcneely	PU030265	4527
24498 7590 10/09/2007 JOSEPH J. LAKS, VICE PRESIDENT THOMSON LICENSING LLC PATENT OPERATIONS PO BOX 5312 PRINCETON, NJ 08543-5312			EXAMINER GHULAMALI, QUTBUDDIN	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/572,695

Applicant(s)

MCNEELY, DAVID LOWELL

Examiner

Qutub Ghulamali

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/11/06, 3/21/06
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Van de Kerkhof (USP 5,995,493).

Regarding claim 1, Van de Kerkhof discloses

a digital radio frequency circuit comprising: circuitry (A/D, 4) that produces a first sample data modulated signal having a first frequency and a first sample data clock rate (first sampling frequency f_{s1}) (col. 3, lines 10-15);

an up-sampler modulator (22) that receives the first sample data modulated signal and produces a second sample data modulated signal having a second frequency (24) and a second sample data clock rate (the upsampler samples the signal applied to its input by a factor of 2) (col. 3, lines 36-45); and

circuitry (34, 20) that receives the first sample data modulated signal and the second sample data modulated signal and delivers one of the first sample data modulated signal second sample data modulated signal for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating

Art Unit: 2611

environment (the filter 28 has the function to predict at least a component of the digital information signal supplied to input terminal 1 in response to signal applied to its input terminal 26) (col. 3, lines 59-67); col. 4, lines 15-67).

As per claim 2, Van de Kerkhof discloses a first filter having a low pass filtering characteristics that receives the first sample data (fs_1), and a second filter as having the characteristic to predict the second sample data (col. 3, lines 21-31, 59-65; col. 4, lines 3-14; col. 5, lines 40-54).

Regarding claims 3, 6, 18, 19, Van de Kerkhof discloses the first filter (8) and a second filter (28) as filters that can be adapted to generate filter coefficients and can be used in an adaptive form differently from each other and use of FIR filters is well known in the art.

Regarding claim 4, Van de Kerkhof discloses a sampling frequency where $fs_2 = fs_1/2$ (col. 3, lines 26-31).

As to claim 5, Van de Kerkhof discloses the output of the first filter (8) and the output of the second filter (28) are delivered to the circuitry ((34, 20) that receives the first sample data modulated signal and the second sample data modulated signal (col. 3, lines 19-31; col. 4, lines 3-34).

Regarding claim 7 Van de Kerkhof discloses a sampling rate of fs_1 samples per second assumed to be 192 kHz in the example shown (col. 4, lines 15-25) and a low filtered version of $fs_1/2$ of 96 kHz. However, the changes in size/proportion in the instant case of 80 MSps and 160 MSps is not sufficient to patentably distinguish over the prior art, see *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims

Art Unit: 2611

directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Regarding claim 17, Van de Kerkhof discloses a method of processing signals comprising:

circuitry (A/D, 4) that produces (or creates) a first sample data modulated signal having a first frequency and a first sample data clock rate (first sampling frequency fs_1) (col. 3, lines 10-15);

an up-sampler modulator (22) that receives the first sample data modulated signal and produces a second sample data modulated signal having a second frequency (24) and a second sample data clock rate (the upsampler samples the signal applied to its input by a factor of 2) (col. 3, lines 36-45);

Art Unit: 2611

selecting between the first sample data modulated signal and the second sample data modulated signal (unit 34 is inputted with the first modulated signal 36 and second modulated sample (32) selects by way of subtractor 34) (col. 3, lines 59-67); and circuitry (34, 20) that receives the first sample data modulated signal and the second sample data modulated signal and delivers one of the first sample data modulated signal second sample data modulated signal for further processing depending on which sample data modulated signal exhibits desirable characteristics for a given operating environment (the filter 28 has the function to predict at least a component of the digital information signal supplied to input terminal 1 in response to signal applied to its input terminal 26) (col. 3, lines 59-67); col. 4, lines 15-67).

As to claim 20, the steps recited are in order.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van de Kerkhof (USP 5,995,493) in view of Keevill et al (USP 6,359,938).

Regarding claim 8, Van de Kerkhof discloses all limitations of the claim except does not explicitly disclose RF circuit comprise orthogonal frequency division multiplexing (OFDM). However, Keevill in a similar field of endeavor discloses digital

Art Unit: 2611

receiver for multicarrier signals are transmitted by OFDM (col. 4, lines 43-52). It would have been obvious to a person skilled in the art at the time the invention was made to use OFDM to replicate portion of active transmission interval as taught by Keevill in the circuit of Van de Kerkhof because it can improve synchronizing a received data signal with fast transform window in signals transmitted according to OFDM.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

US Patent (7,016,657) to Boariu.

US Pub. (2005/0169400) to Chouly et al.

US Patent (7,167,513) to Tsui et al.

US Patent (6,907,086) to Ojard.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.

October 1, 2007.


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER